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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,799	08/06/2007	Rong Fan	DEX0499US.NP	2565

32800 7590 06/04/2010

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EXAMINER	
BLANCHARD, DAVID J	
ART UNIT	PAPER NUMBER
1643	

NOTIFICATION DATE	DELIVERY MODE
06/04/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

poreilly@licataandtyrrell.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,799	FAN ET AL.	
	Examiner	Art Unit	
	DAVID J. BLANCHARD	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5,6,8,11,13,15-17,21,22,27,28,30,50 and 51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 5-6, 8, 11, 13, 15-17, 21-22, 27-28, 30 and 50-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 3-4, 7, 9-10, 12, 14, 18-20, 23-26, 29, 31-49 and 52-71 are cancelled.

2. Claims 1-2, 5-6, 8, 11, 13, 15-17, 21-22, 27-28, 30 and 50-51 are pending and under consideration.

Objections/Rejections Withdrawn

3. The objection to the specification as not complying with the sequence rules is withdrawn in view of the amendments to the specification filed 3/22/2010.

4. The rejection of claims 1-2, 5-6, 8, 11, 13, 15-17, 21-22, 27-28, 30 and 50-51 under 35 U.S.C. § 112, first paragraph, because the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention, because the specification does not provide evidence that the claimed biological materials are (1) known and readily available to the public; (2) reproducible from the written description is withdrawn in view of applicants' successful completion of the deposit requirements.

Rejections Maintained

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. The rejection of claims 1-2, 5-6, 8, 11, 15-17 and 21-22 under 35 U.S.C. 102(b) as being anticipated by Keolsch et al (WO 98/22597, 5/28/1998, IDS filed 12/7/2006) is maintained.

Keolsch et al teach antibodies, including humanized antibodies that bind the aspartic protease napsin A, which as evidenced by the specification at page 11, lines 23-24 is identical to Lng105, wherein aspartic proteases are well known to be correlated with disorders such as breast

cancer and the antibodies are produced by immunization with napsin A and the antibodies may be labeled with radiolabels, fluorescent labels, or chemiluminescent labels for immunodetection (see entire document, particularly pp. 8-12 and 15). Therefore, it is the examiner's position that the antibodies of Keolsch et al would compete for the same epitopes recognized by the antibodies having ATCC accession numbers PTA-5878, PTA-5879, PTA-6146, PTA-6147 and PTA-6629 and would necessarily have the recited binding properties of claims 6, 15-17 and 21-22. One of ordinary skill in the art would reasonably conclude that the Keolsch et al antibodies also possesses the same structural and functional properties as those of the antibodies claimed and, therefore, it appears that Keolsch et al have produced antibodies that are identical to the claimed antibodies. Since the Patent and Trademark Office does not have the facilities for examining and comparing the claimed antibodies with the antibodies of Keolsch et al, the burden of proof is upon the Applicants to show a distinction between the structural and functional characteristics of the claimed antibodies and the antibodies of the prior art. See *In re Best*, 562 F.2d 1252, 195 U.S.P.Q. 430 (CCPA 197) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. The rejection of claims 1-2, 5-6, 8, 11, 13, 15-17, 21-22, 27-28, 30 and 50-51 under 35 U.S.C. 103(a) as being unpatentable over Keolsch et al (WO 98/22597, 5/28/1998, IDS filed 12/7/2006) in view of Devaux et al (U.S. Patent 6,824,780 B1, priority to 10/29/1999) is maintained.

Keolsch et al have been described supra. Keolsch et al do not teach wherein the antibodies conjugated to a cytotoxic agent, a toxin, ricin, saponin, maytansinoid and calicheamicin or compositions comprising the antibody or conjugates thereof and a carrier, or articles of manufacture comprising a container comprising a composition comprising the antibody and further comprising a package insert indicating that the composition can be used to diagnose, image or treat lung or breast cancer. These deficiencies are made up for in the teachings of Devaux et al.

Devaux et al teach antibodies that bind a cancer antigen for immunodetection and immunotherapy of cancer, wherein the antibodies include chimeric and humanized antibodies and are conjugated to therapeutic moieties including growth inhibitory agents, a cytotoxic agent, a toxin including ricin, saponin, a maytansinoid and calicheamicins and Devaux et al teach compositions comprising the antibody and a pharmaceutically acceptable carrier or excipient as well as articles of manufacture or kits comprising a container comprising the antibody compositions and a label or package insert (see entire document, particularly cols. 8, 10, 16-17, 23-24, 31-34, 42-43 and 47).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to have produced anti-napsin A antibodies including humanized antibodies wherein the antibodies are conjugated to an imaging agent, or a cytotoxic agent, a toxin, ricin, saponin, a maytansinoid or calicheamicin as well as compositions comprising the

antibody or conjugates thereof and a pharmaceutically acceptable carrier or excipient and articles of manufacture or kits comprising a container comprising the antibody compositions and a label or package insert for therapeutic benefit in breast cancer patients.

One of ordinary skill in the art would have been motivated to and had a reasonable expectation of success to have produced anti-napsin A antibodies including humanized antibodies wherein the antibodies are conjugated to an imaging agent, or a cytotoxic agent, a toxin, ricin, saponin, a maytansinoid or calicheamicin as well as compositions comprising the antibody or conjugates thereof and a pharmaceutically acceptable carrier or excipient and articles of manufacture or kits comprising a container comprising the antibody compositions and a label or package insert for therapeutic benefit in breast cancer patients in view of Keolsch et al and Devaux et al because Keolsch et al teach antibodies, including humanized antibodies that bind the aspartic protease napsin A, which as evidenced by the specification at page 11, lines 23-24 is identical to Lng105, wherein aspartic proteases are well known to be correlated with disorders such as breast cancer and the antibodies are produced by immunization with napsin A and the antibodies may be labeled with radiolabels, fluorescent labels, and chemiluminescent labels for immunodetection and Devaux et al teach antibodies that bind a cancer antigen for immunodetection and immunotherapy of cancer, wherein the antibodies include chimeric and humanized antibodies and are conjugated to therapeutic moieties including growth inhibitory agents, a cytotoxic agent, a toxin including ricin, saponin, a maytansinoid and calicheamicins and Devaux et al teach compositions comprising the antibody and a pharmaceutically acceptable carrier or excipient as well as articles of manufacture or kits comprising a container comprising the antibody compositions and a label or package insert. Therefore, one of ordinary skill in the art would have been motivated to have conjugated the anti-napsin A antibodies of Keolsch et al to the therapeutic moieties as taught by Devaux et al and produced compositions and articles of manufacture comprising such for therapeutic benefit in breast cancer patients. Thus, it would have been *prima facie* obvious to one skilled in the art to have produced anti-napsin A antibodies including humanized antibodies wherein the antibodies are conjugated to an imaging agent, or a cytotoxic agent, a toxin, ricin, saponin, a maytansinoid or calicheamicin as well as compositions comprising the antibody or conjugates thereof and a pharmaceutically acceptable carrier or excipient and articles of manufacture or a kit comprising a container comprising the antibody

compositions and a label or package insert for therapeutic benefit in breast cancer patients in view of Keolsch et al and Devaux et al.

Since Keolsch et al teach antibodies against napsin A, which is identical to the instantly claimed Lng105 antigen as evidenced by the specification at page 11, lines 23-24, it is the examiner's position that the antibodies and antibody conjugates thereof of Keolsch et al and Devaux et al would necessarily compete for the same epitopes recognized by the antibodies having ATCC accession numbers PTA-5878, PTA-5879, PTA-6146, PTA-6147 and PTA-6629. One of ordinary skill in the art would reasonably conclude that antibodies and antibody conjugates of Keolsch et al and Devaux et al also possesses the same structural and functional properties as those of the antibodies claimed and, therefore, it appears that Keolsch et al and Devaux et al have produced antibodies and antibody conjugates that are identical to the claimed antibodies and antibody conjugates. Since the Patent and Trademark Office does not have the facilities for examining and comparing the claimed antibodies and antibody conjugates with the antibodies and antibody conjugates of Keolsch et al and Devaux et al, the burden of proof is upon the Applicants to show an unobvious distinction between the structural and functional characteristics of the claimed antibodies and antibody conjugates and the antibodies and antibody conjugates of the prior art. See *In re Best*, 562 F.2d 1252, 195 U.S.P.Q. 430 (CCPA 197) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references.

Response to Arguments

The reply filed 3/22/2010 states that the antibodies produced by Keolsch et al were produced using an 18 amino acid epitope of Napsin A, whereas the instantly claimed antibodies (PTA-5878, PTA-5879, PTA-6146, PTA-6147) were produced by immunization with the full length Lng105 protein of SEQ ID NO:1 (419 amino acids in length) or SEQ ID NO:2 (438 amino acids in length). Applicant cites MPEP 2112, stating that inherency may not be established by probabilities or possibilities and argues that it does not follow that the polyclonal serum of Keolsch raised against a short 18 amino acid peptide fragment will necessarily bind the

same epitopes as antibodies generated against the full length Lng105 protein of SEQ ID Nos:1 or 2. Applicants' arguments have been fully considered but are not found persuasive. While Keolsch et al do exemplify the production of antibodies against a short 18 amino acid peptide fragment of Napsin A, Keolsch et al also teach immunization of an animal with purified protein (e.g., Napsin A) (see Keolsch et al at pg. 12, "*Antibody Production*"). To the extent that applicant is arguing that Keolsch et al do not exemplify antibody production against the full length Napsin A protein, applicant is reminded that when the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). Further, applicants' citation of MPEP 2112 is acknowledged, however, MPEP 2112.01 indicates that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Accordingly, in the interest of issuing a valid patent, it is applicants' who are in the better position to establish Keolsch's antibodies raised against the Napsin A protein, which is identical to the instantly claimed Lng105 protein, do not possess the claimed binding specificity, as the examiner has established that Keolsch et al teach antibodies that bind the aspartic protease Napsin A (Lng105) and are produced by immunization with Napsin A (Lng105).

Thus, the rejection of claims 1-2, 5-6, 8, 11, 15-17 and 21-22 under 35 U.S.C. 102(b) as being anticipated by Keolsch et al (WO 98/22597, 5/28/1998, IDS filed 12/7/2006) and the rejection of claims 1-2, 5-6, 8, 11, 13, 15-17, 21-22, 27-28, 30 and 50-51 under 35 U.S.C. 103(a)

as being unpatentable over Keolsch et al (WO 98/22597, 5/28/1998, IDS filed 12/7/2006) in view of Devaux et al (U.S. Patent 6,824,780 B1, priority to 10/29/1999) are maintained.

9. No claim is allowed.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Blanchard whose telephone number is (571) 272-0827. The examiner can normally be reached at Monday through Friday from 8:00 AM to 6:00 PM, with alternate Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, can be reached at (571) 272-0832.

The official fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David J. Blanchard/
Primary Examiner, A.U. 1643